

Eiconcard S9x Family

for PCI-Compatible Bus

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Introduction

The S9x family of Eiconcards are PCI Plug-and-Play (PnP) cards that offer X.25 connectivity through one or two (depending on the the Eiconcard model)very high-speed ports (supporting V.24, V.35, EIA-530, V.36/RS-449, or X.21 interfaces) at speeds of up to 2 Mbps, and/or through an ISDN BRI port (Eiconcard S91) at speeds of up to 128 kbps (over the “D” channel or the “B” channels).

Note *The Eiconcard S9x also supports protocols such as SDLC, PPP, and Frame Relay.*



All Eiconcards have been tested and found to comply with the Electromagnetic compatibility, Safety and Network connection regulations within the European Union, North America, and other major territories. Read the regulatory information on page 33 before installing and using your adapter.

Hardware Features

The Eiconcard S9x features the following:

Eiconcard	CPU/Memory/Flash	# of VHSI Ports	#of ISDN BRI Ports
Eiconcard S90	25 MHz Motorola 68302 / 1 MB RAM / 1 MB Flash	1	N/A
Eiconcard S91	25 MHz Motorola 68302 / 1 MB RAM / 1 MB Flash	1	1
Eiconcard S92	33 MHz Motorola 68360 / 1 MB RAM / 1 MB FLASH	2	N/A
Eiconcard S94	33 MHz Motorola 68360 / 8 MB RAM / 1 MB FLASH	2	N/A

The Very High-Speed Interface (VHSI) ports, support full duplex communications over a V.24, V.35, EIA-530, V.36/RS-449, or X.21 interface at speeds of up to 2 Mbps per port (depending on the type of interface selected).

The ISDN BRI port supports transfer rates of up to 128 kbps (over the “D” channel or the “B” channels).

Ease of Use

The VHSI port features automatic interface selection. The intelligent controller on the Eiconcard S9x detects the type of cable connected to the port and automatically selects the matching interface.

Installing the Eiconcard S9x

Follow the steps below to install the Eiconcard S9x. If you want the Eiconcard S9x to be available to multiple users on a LAN, install it in the PC that will function as a gateway for the LAN.

1 Prepare the PC

Turn off the PC and disconnect its power cable. Remove the cover of the PC according to the instructions that came with it.

2 Install the Eiconcard S9x

- a) Drain static electricity from your body by touching the metal chassis (the unpainted metal at the back of your PC).
- b) Locate a slot in your PC that has the same bus type as your adapter.
If your PC has both ISA and PCI slots, the PCI slots are shorter, as shown.

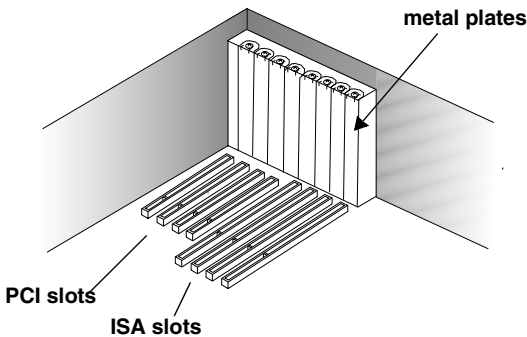


Figure 1. Locating a PCI slot

- c) If there is a metal plate at the end of the slot, remove it and keep the screw.
- d) Firmly insert the adapter into the selected slot.



To avoid damaging your hardware, insert the adapter only into a slot with the same bus type as the adapter. Inserting the adapter into any other type of slot can damage your adapter, your PC, or both.

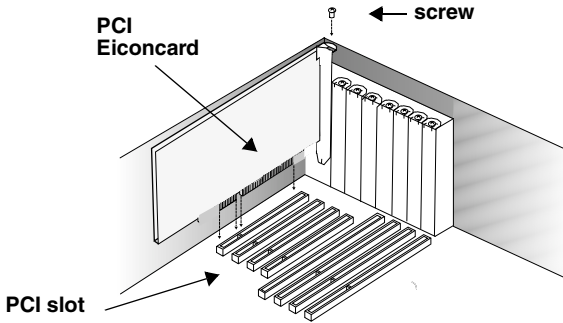


Figure 2. Inserting the Eiconcard S9x.

- e) Fasten the adapter with the screw (to ensure that the adapter is properly secured and grounded to the PC's chassis).
- f) Replace the cover of your PC as described in your PC's manual.
- g) Reconnect the power cable.

3 Test the Eiconcard S9x

The application software purchased with the Eiconcard S9x contains a test program to verify the card's integrity. Consult the documentation supplied with this software for details.

4 Configure the Eiconcard S9x

Before you can use the Eiconcard S9x, you must configure it to work with your communications software. The documentation which came with this software contains complete instructions on how to configure the card.

For information on the LED functionality, see "LED Functionality" on page 29.

5 Connect to the outside world

You are now ready to connect the Eiconcard S9x to the outside world.

- To set up ISDN connections, consult "Making an ISDN Connection" on page 8.
- To set up a VHSI connection, consult "Making a VHSI Connection" on page 13.

Making an ISDN Connection

Note Only the Eiconcard S91 supports ISDN connections.

After you have installed your Eiconcard S91, connect your ISDN line.

In Europe and most countries worldwide

In Europe as well as most countries outside of North America and Japan, your Eiconcard S91 adapter can be connected directly to your ISDN line using the included cable.

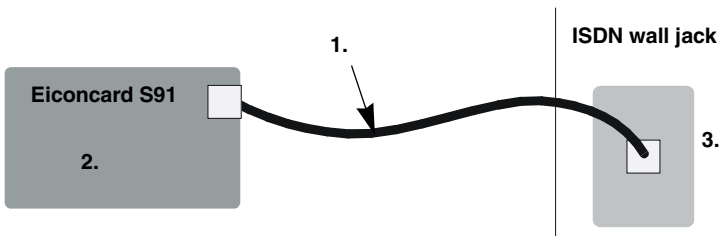


Figure 3. Connecting the ISDN cable.

1 Take the cable included with the Eiconcard S91.

2 Plug one end into the Eiconcard S91.

3 Plug the other end into the ISDN wall jack.

In North America and Others

In North America and some other countries (check with your ISDN provider), you need an NT1 (network terminating device) to connect your ISDN line. However, depending on your Eiconcard S91 interface, the NT1 might be integrated into the adapter. Follow the instructions for your adapter (with U-interface or S/T-interface).

Note North American and Australian Eiconcard S91 S/T users may need to adjust the Eiconcard S91 termination. Refer to the section "Termination" on page 11, for more information.

Eiconcard S91 U-interface:

If your Eiconcard S91 has a U-interface, the NT1 is integrated into the adapter, and you do not need a separate NT1.

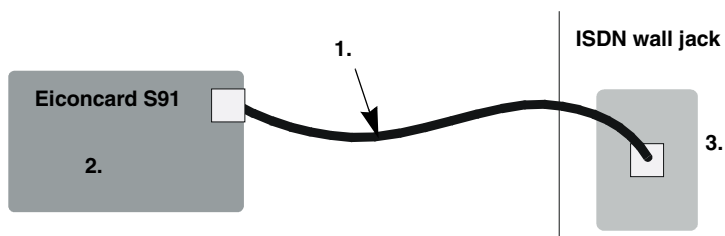


Figure 4. Connecting the ISDN cable.

1 Take the cable included with the Eiconcard S91.

2 Plug the RJ-45 end into the Eiconcard S91.

3 Plug the RJ-11 end into the ISDN wall jack.

Note *In North America, many ISDN wall jacks (with a U-interface) are RJ-11. However, if your ISDN wall jack is RJ-45, you can still plug the RJ-11 end of the cable into your RJ-45 ISDN wall jack (there will be some space on both sides of the plug).*

Eiconcard S91 S/T-interface:

If your Eiconcard S91 has an S/T-interface, you need a separate NT1.

Note *You can order an NT1 from Eicon Networks or from another supplier.*

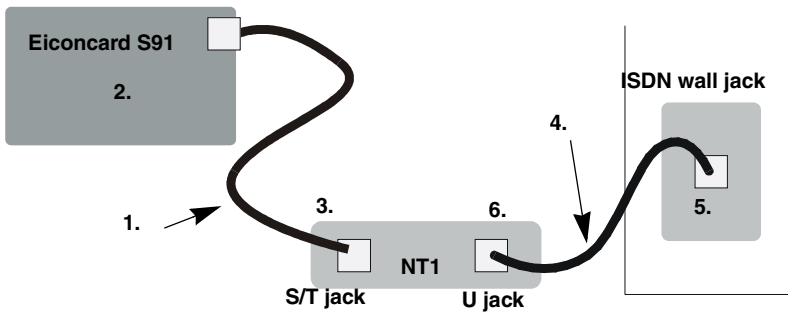


Figure 5. Connecting to an NT1.

- 1** Take the cable included with the Eiconcard S91.
- 2** Plug one end into the Eiconcard S91.
- 3** Plug the other end into the NT1's S/T jack.
- 4** Take the cable included with the NT1.
- 5** Plug one end into the ISDN wall jack.
- 6** Plug the other end into the NT1's U jack.

Termination

This section applies to S/T interface users in Australia and North America, and provides instructions to help set up termination scenarios. Termination requirements vary according to: the number of devices connected to the NT1; and the distance between the devices and the NT1.

For users who require termination, the Eiconcard S91 S/T has been shipped with a separate terminating resistor. For information on how to install the terminating resistor, see "Installing a Terminating Resistor" on page 12.

How do I determine the termination value?

Single ISDN Device

If the NT1 is connected to a single ISDN device (e.g. Eiconcard S91), follow the instructions below.

75 meters or more

If the connection spans 75 meters (250 feet) or more, connect the 100 ohm terminating resistor included with the ISDN cable. Set the NT1 to provide 100 ohms of resistance. Consult the manual provided with the external NT1 for more detailed instructions.

Note *Some NT1s do not support connections over 75 meters (250 feet). Check your user documentation to determine the distance supported.*

75 meters or less

If the connection spans less than 75 meters (250 feet), set the NT1 to 50 ohms of resistance, and do not connect the terminating resistor. Consult the manual provided with the external NT1 for more detailed instructions.

Multiple ISDN Devices

If the NT1 is connected to more than one ISDN device, follow the procedures below.

75 meters or more

If the connection spans 75 meters (250 feet) or more, both end devices on the ISDN bus must be set to 100 ohm termination. If the Eiconcard is one of the end devices, connect the 100 ohm terminating resistor included with the ISDN cable. Consult the manuals provided with the other ISDN devices and NT1 for more details.

Note *Some NT1s do not support connections over 75 meters (250 feet). Check your user documentation to determine the distance supported*

75 meters or less

If the connection spans less than 75 meters (250 feet), set the NT1 to 50 ohms of resistance, and do not connect the terminating resistor. Set the other ISDN devices to no termination. Consult the manuals provided with the NT1 and other ISDN devices for more detailed instructions.

Installing a Terminating Resistor

The terminating resistor is installed by inserting the RJ-45 end of the ISDN cable into the terminating resistor, and then inserting the terminating resistor into the wall jack.

Making a VHSI Connection

The Eiconcard S9x can connect as a DTE to devices such as Data Service Units (DSUs) which support one of the following interfaces: V.24, V.35, EIA-530, V.36/RS-449, or X.21. It can also connect directly to a host computer, or back-to-back to another Eiconcard. Each VHSI port is configured independently

Table 1 lists the most common connections supported by the VHSI port, and specifies the part number of the required Eicon Networks cable. For information on making your own cables, see "Interface Specifications" on page 14.

Interface	Connection	Part #
V.24	to V.24 DCE	300-077
	to V.24 DTE	300-078
V.35	to V.35 DCE	300-076
	to V.35 DCE (France)	300-083
EIA-530	to EIA-530 DCE	300-080
V.36/RS-449	to V.36/RS-449 DCE	300-079
X.21	to X.21 DCE	300-081
Direct	to VHSI port on another Eiconcard S9x or compatible Eicon Networks Eiconcard	300-075

Table 1. Standard Interface Cables

To use an interface, simply install the appropriate cable. The Eiconcard S9x recognizes the cable and automatically prepares the port for that interface.

Consult the documentation which came with your networking software for more information about port configuration.

Interface Specifications

The standards compliant with each interface supported on the VHSI port are listed in Table 2. The rest of this section describes the allocation of pins used to implement the electrical and signaling requirements of each interface. A wiring diagram is also provided, to show the correspondence of the interface pinout to the VHSI port.

Interface	Standard	Compatibility
V.24	CCITT V.24	Signaling
	CCITT V.28	Electrical
	CCITT X.21bis	Electrical and signaling
	EIA RS-232-C	Electrical and signaling
	ISO 2110	Connector type for the DCE side of a V.24 VHSI Modem Cable
V.35	CCITT V.28	Some signals for electrical
	CCITT V.35	Some signals for electrical and signaling
	ISO 2593	Connector type for the DCE side of a V.35 VHSI Modem Cable
EIA-530	RS-422	Electrical
	RS-423	Electrical
	ISO 2110	Connector type for the DCE side of a EIA-530 VHSI Modem Cable
V.36/RS-449	CCITT V.10	Electrical
	CCITT V.11	Electrical
	RS-422	Electrical
	RS-423	Electrical
	ISO 4902	Connector type for the DCE side of a V.36/ RS-449 VHSI Modem Cable
X.21	CCITT X.21	Signaling
	CCITT V.11	Electrical
	CCITT X.27	Electrical
	EIA RS-422-A	Electrical
	ISO 4903	Connector type for the DCE side of an X.21 VHSI Modem Cable

Table 2. Interface Compatibility

Cable Construction Information

If you plan to construct your own VHSL cables, be sure to observe the guidelines given below.

Wire Gauge, Grounding, and Pairing

- Use 28 AWG 7-strand wire with 0.020–0.028" insulation.
- The chassis must be grounded both by a drain wire and by the braid; both must be connected to the connector case and shell at each end of the cable. The braid must be connected through its full circumference.
- Wires identified under the heading "Twisted Pairs" must be paired. If you do not install twisted pairs correctly, the cable will not work.

Type of Connectors

The VHSL port accepts a high density 36-pin male cable connector. The types of connectors used on the interface-specific end of the cable are as follows:

Interface	Connector
V.35	Type M
V.24	DB25
V.36/RS-449	DB37
EIA-530	DB25
X.21	DB15

Table 3. Connector Types

The V.24 DCE Interface

A pin-out diagram for the V.24 DCE interface is shown in Figure 6. The signal definitions and names are listed in Table 4.

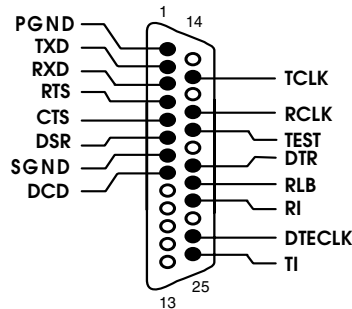


Figure 6. V.24 DCE Interface

Pin #	Signal	Name	Direction	CCITT #
1	PGND	Protective Ground	Common	101
2	TXD	Transmit Data	Output	103
3	RXD	Receive Data	Input	104
4	RTS	Request to Send	Output	105
5	CTS	Clear to Send	Input	106
6	DSR	Data Set Ready	Input	107
7	SGND	Signal Ground	Common	102
8	DCD	Data Carrier Detect	Input	109
15	TCLK	Transmit Clock (DCE)	Input	114
17	RCLK	Receive Clock	Input	115
18	TEST	Local Loopback Activation	Output	141
20	DTR	Data Terminal Ready	Output	108
21	RLB	Remote Loopback	Output	140
22	RI	Ring Indicator	Input	125
24	DTECLK	Transmit Clock (DTE)	Output	113
25	TI	Test Indicator	Input	142

Table 4. V.24 DCE Interface Signals

VHSI—V.24 Connections

The wiring diagram below shows the connections required to construct a VHSI—V.24 DCE cable. For additional information required to construct your own cables, see “Cable Construction Information” on page 15.

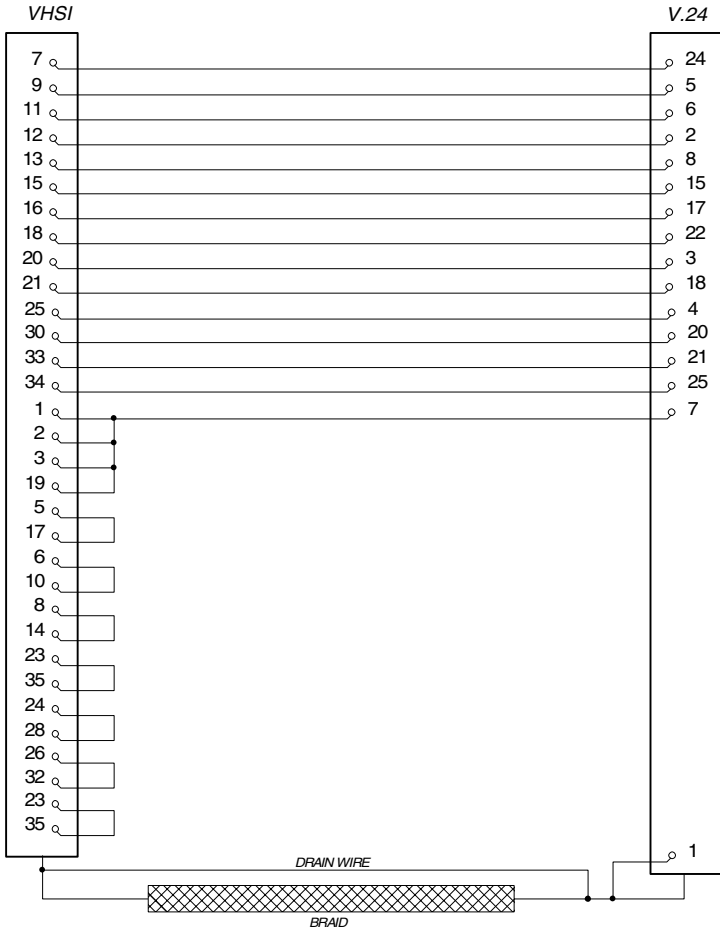


Figure 7. VHSI—V.24 DCE Connections

The V.24 DTE Interface

A pin-out diagram for the V.24 DTE interface is shown in Figure 8. The signal definitions and names are listed in Table 5.

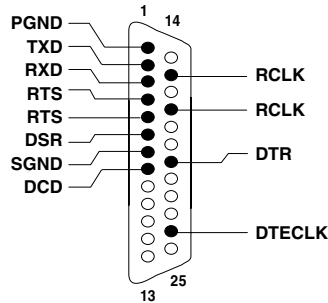


Figure 8. V.24 DTE Interface

Pin #	Signal	Name	Direction	CCITT #
1	PGND	Protective Ground	Common	101
2	TXD	Transmit Data	Output	103
3	RXD	Receive Data	Input	104
4	RTS	Request to Send	Output	105
5	RTS	Request to Send	Output	105
6	DSR	Data Set Ready	Input	107
7	SGND	Signal Ground	Common	102
8	DCD	Data Carrier Detect	Input	109
15	RCLK	Receive Clock	Input	115
17	RCLK	Receive Clock	Input	115
20	DTR	Data Terminal Ready	Output	108
24	DTECLK	Transmit Clock (DTE)	Output	113

Table 5. V.24 DTE Interface Signals

VHSI—V.24 Connections

The wiring diagram below shows the connections required to construct a VHSI—V.24 DTE cable. For additional information required to construct your own cables, see “Cable Construction Information” on page 15.

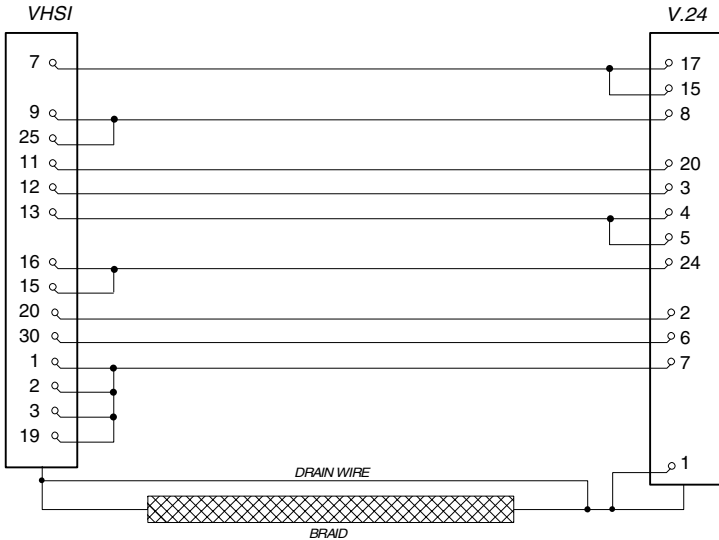


Figure 9. VHSI—V.24 DTE Connections

The V.35 Interface

A pin-out diagram for the V.35 interface is shown in Figure 10. The signal definitions and names are listed in Table 6.

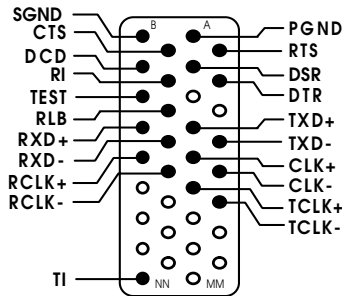


Figure 10. V.35 Interface

Pin #	Signal	Name	Direction	CCITT #
A	PGND	Protective Ground	Common	101
B	SGND	Signal Ground	Common	102
C	RTS	Request to Send	Output	105
D	CTS	Clear to Send	Input	106
E	DSR	Data Set Ready	Input	107
F	DCD	Data Carrier Detect	Input	109
H	DTR	Data Terminal Ready	Output	108
J	RI	Ring Indicator	Input	125
L	TEST	Local Loopback Activation	Output	141
N	RLB	Remote Loopback	Output	140
P	TXD+	Transmit Data	Output	103A
R	RXD+	Receive Data	Input	104A
S	TXD-	Transmit Data	Output	103B
T	RXD-	Receive Data	Input	104B
U	CLK+	Transmit Clock (DTE)	Output	113A
V	RCLK+	Receive Clock (DCE)	Input	115A
W	CLK-	Transmit Clock (DTE)	Output	113B
X	RCLK-	Receive Clock (DCE)	Input	115B
Y	TCLK+	Transmit Clock (DCE)	Input	114A
AA	TCLK-	Transmit Clock (DCE)	Input	114B
NN	TI	Test Indicator	Input	142

Table 6. V.35 Interface Signals

VHSI—V.35 Connections

The wiring diagram below shows the connections required to construct a VHSI—V.35 cable. For additional information required to construct your own cables, see “Cable Construction Information” on page 15.

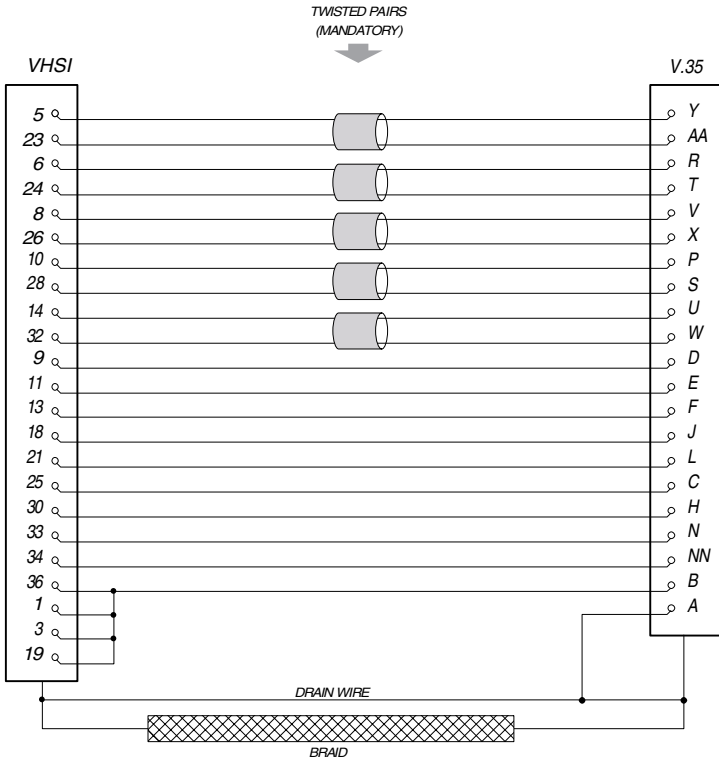


Figure 11. VHSI—V.35 Connections

The EIA-530 Interface

A pin-out diagram for the EIA-530 interface is shown in Figure 12. The signal definitions and names are listed in Table 7.

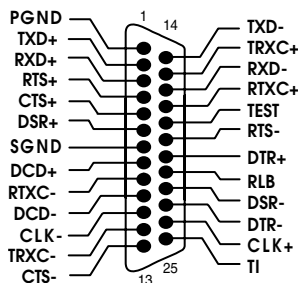


Figure 12. EIA-530 Interface

Pin #	Signal	Name	Direction	CCITT #	EIA #
1	PGND	Protective Ground	Common	101	-
2	TXD+	Transmit Data	Output	103A	BA(A)
3	RXD+	Receive Data	Input	104A	BB(A)
4	RTS+	Request to Send	Output	105A	CA(A)
5	CTS+	Clear to Send	Input	106A	CB(A)
6	DSR+	Data Set Ready	Input	107A	CC(A)
7	SGND	Signal Ground	Common	102B	AB
8	DCD+	Data Carrier Detect	Input	109A	CF(A)
9	RTXC-	Receive Clock (DCE)	Input	115B	DD(B)
10	DCD-	Data Carrier Detect	Input	109B	CF(B)
11	CLK-	Transmit Clock (DTE)	Output	113B	DA(B)
12	TRXC-	Transmit Clock (DCE)	Input	114B	DB(B)
13	CTS-	Clear to Send	Output	106B	CB(B)
14	TXD-	Transmit Data	Output	103B	BA(B)
15	TRXC+	Transmit Clock (DCE)	Input	114A	DB(A)
16	RXD-	Receive Data	Input	104B	BB(B)
17	RTXC+	Receive Clock (DCE)	Input	115A	DD(A)
18	TEST	Local Loopback	Output	141A	LL
19	RTS-	Request to Send	Output	105B	CA(B)
20	DTR+	Data Terminal Ready	Output	108A	CD(A)
21	RLB	Remote Loopback	Output	140A	RL
22	DSR-	Data Set Ready	Input	107B	CC(B)
23	DTR-	Data Terminal Ready	Output	108B	CD(B)
24	CLK+	Transmit Clock (DTE)	Output	113A	DA(A)
25	TI	Test Indicator	Input	142A	TM

Table 7. EIA-530 Interface Signals

VHSI—EIA-530 Connections

The wiring diagram below shows the connections required to construct a VHSI—EIA-530 cable. For additional information required to construct your own cables, see “Cable Construction Information” on page 15.

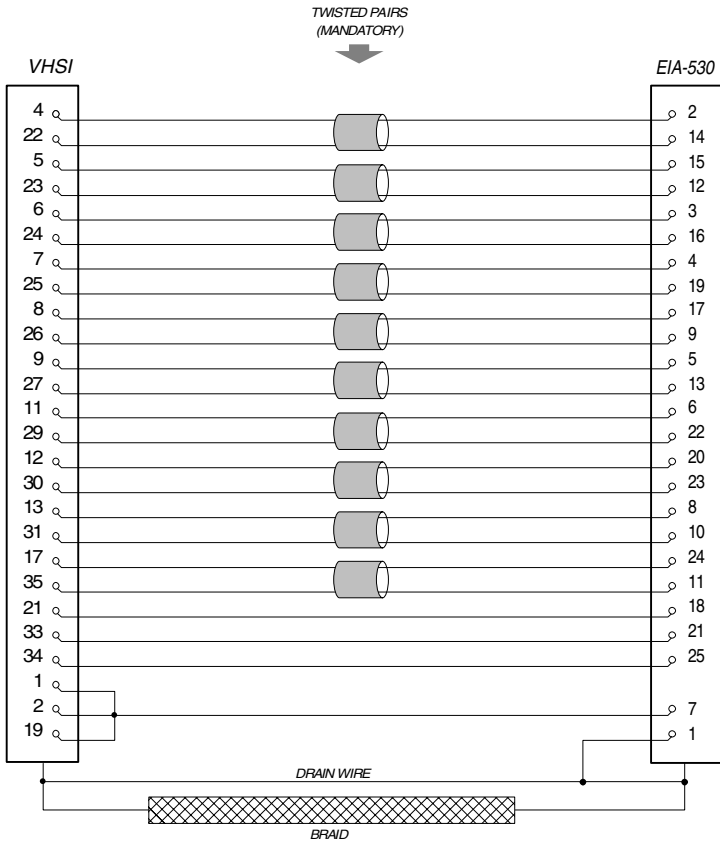


Figure 13. VHSI—EIA-530 Connections

The V.36/RS-449 Interface

A pin-out diagram for the V.36/RS-449 interfaces is shown in Figure 14. The signal definitions and names are listed in Table 8.

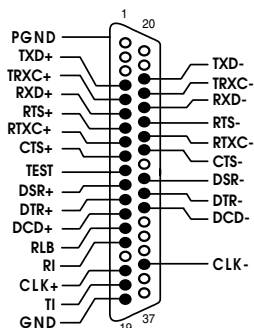


Figure 14. V.36/RS-449 Interface

Pin #	Signal	Name	Direction	CCITT #
Case	PGND	Protective Ground	Common	101
4	TXD+	Transmit Data	Output	103A
5	TRXC+	Transmit Clock (DCE)	Input	114A
6	RXD+	Receive Data	Input	104A
7	RTS+	Request to Send	Output	105A
8	RTXC+	Receive Clock (DCE)	Input	115A
9	CTS+	Clear to Send	Input	106A
10	TEST	Local Loopback Activation	Output	141A
11	DSR+	Data Set Ready	Input	107A
12	DTR+	Data Terminal Ready	Output	108A
13	DCD+	Data Carrier Detect	Input	109A
14	RLB	Remote Loopback	Output	140A
15	RI	Ring Indicator	Input	125A
17	CLK+	Transmit Clock (DTE)	Output	113A
18	TI	Test Indicator	Input	142A
19	GND	DTE Common Return	Common	102A/B
22	TXD-	Transmit Data	Output	103B
23	TRXC-	Transmit Clock (DCE)	Input	114B
24	RXD-	Receive Data	Input	104B
25	RTS-	Request to Send	Output	105B
26	RTXC-	Receive Clock (DCE)	Input	115B
27	CTS-	Clear to Send	Input	106B
29	DSR-	Data Set Ready	Input	107B
30	DTR-	Data Terminal Ready	Output	108B
31	DCD-	Data Carrier Detect	Input	109B
35	CLK-	Transmit Clock (DTE)	Output	113B

Table 8. V.36/RS-449 Interface Signals

VHSI—V.36/RS-449 Connections

The wiring diagram below shows the connections required to construct a VHSI—V.36/RS-449 cable. For additional information required to construct your own cables, see “Cable Construction Information” on page 15.

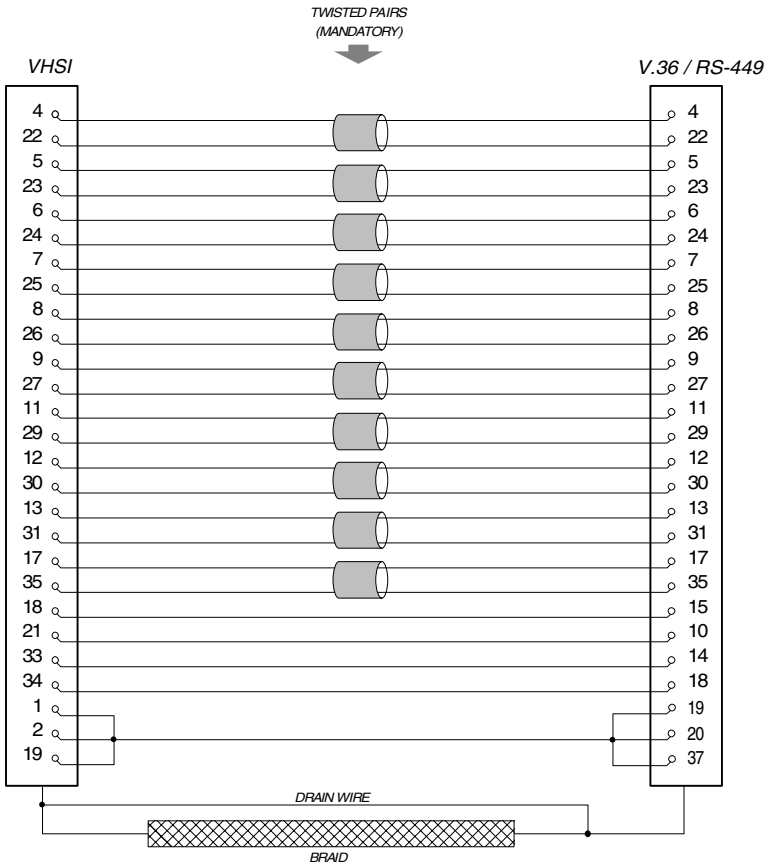


Figure 15. VHSI—V.36/RS-449 Connections

The X.21 Interface

A pin-out diagram for the X.21 interface is shown in Figure 16. The signal definitions and names are listed in Table 9.

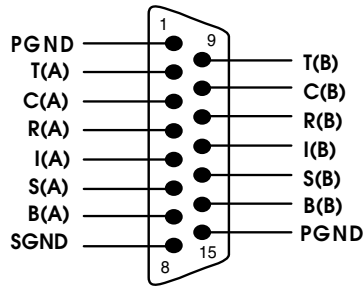


Figure 16. X.21 Interface

Pin #	Signal	Name	Direction	CCITT #
1/15	PGND	Protective Ground	Common	101
2	T(A)	Transmit Data (+)	Output	103A
3	C(A)	Control Signal (+)	Output	105A
4	R(A)	Receive Data (+)	Input	104A
5	I(A)	Indication (+)	Input	109A
6	S(A)	Signal Element Timing (+)	Input	115A
7	B(A)	Byte Timing (+)	Input	114A
8	SGND	Signal Ground	Common	102
9	T(B)	Transmit Data (-)	Output	103B
10	C(B)	Control Signal (-)	Output	105B
11	R(B)	Receive Data (-)	Input	104B
12	I(B)	Indication (-)	Input	109B
13	S(B)	Signal Element Timing (-)	Input	115B
14	B(B)	Byte Timing (-)	Input	114B

Table 9. X.21 Interface Signals

VHSI—X.21 Connections

The wiring diagram below shows the connections required to construct a VHSI—X.21 cable. For additional information required to construct your own cables, see “Cable Construction Information” on page 15.

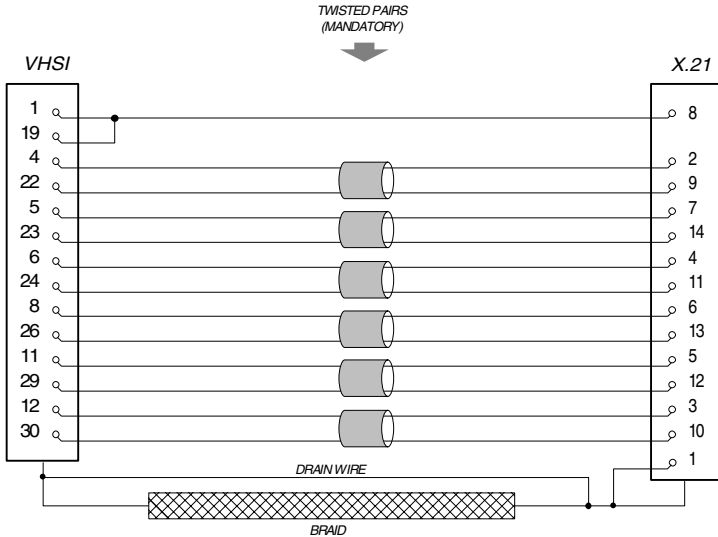


Figure 17. VHSI—X.21 Connections

Back-to-Back Connections

The wiring diagram below shows the connections required to construct a back-to-back VHSI—VHSI cable. Back-to-back operations are conducted through the V.36 interface. For additional information required to construct your own cables, see “Cable Construction Information” on page 15.

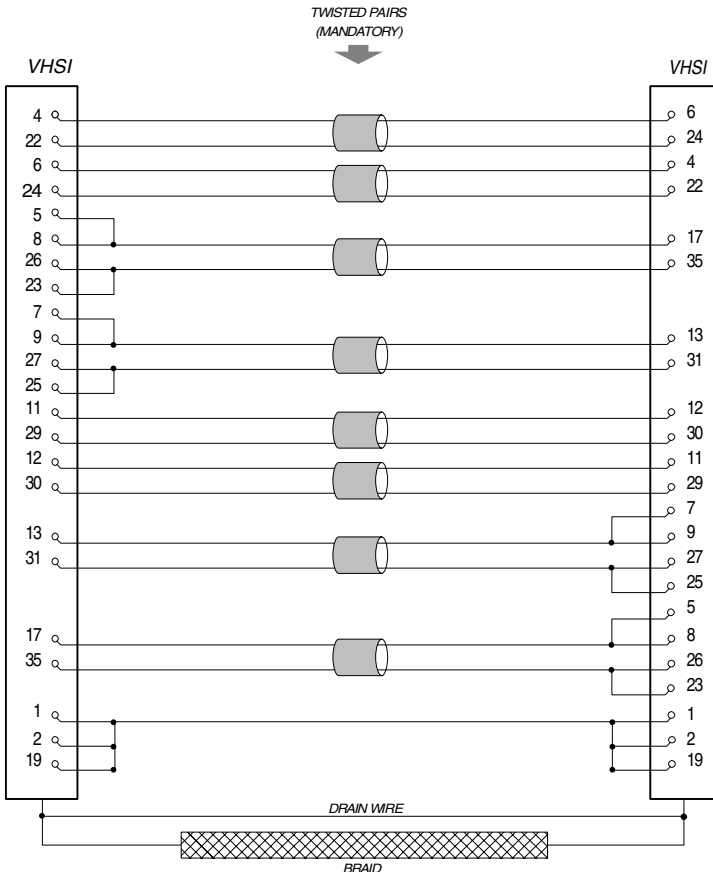
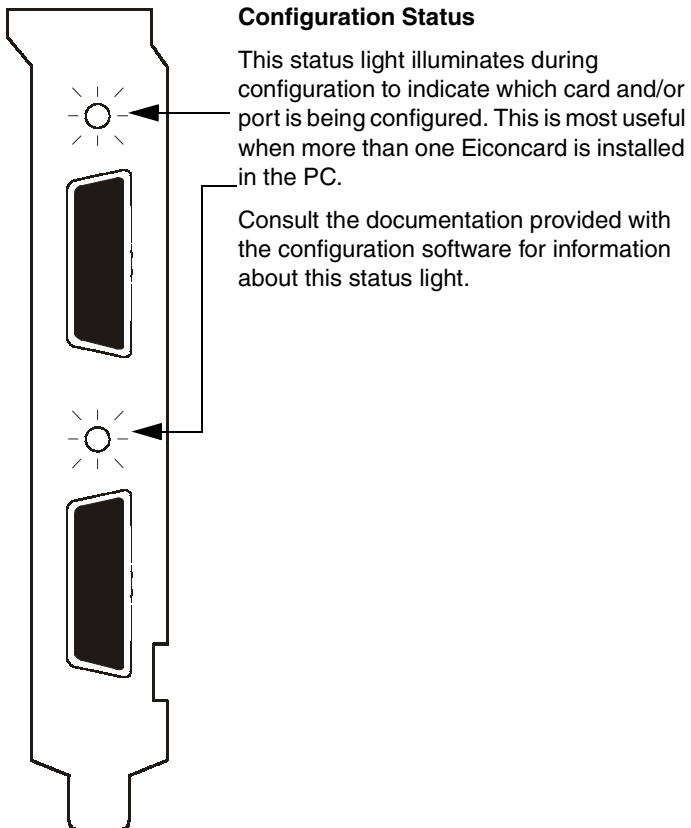


Figure 18. VHSI—VHSI Connections

LED Functionality

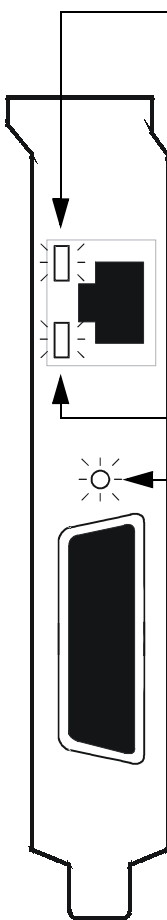
Eiconcard S90, S92, and S94

Note *The Eiconcard S90 has only one VHSI port.*



Eiconcard S91

The Eiconcard S91 has three status lights (LEDs) on the end bracket. Two of these lights indicate the status of the ISDN connection, and the third identifies the card during configuration.



D-channel Status

The D-channel controls the link to your ISDN service provider.

Off The line is not active. The cable may not be connected.

Blinking .. The line is active, but a link can't be established. This may be a symptom of incorrect configuration.

Steady ... The ISDN line is active and operating normally.

B-channel Status

The B-channels are used for the link to the remote ISDN device.

Off There is no connection.

Blinking .. Attempting to connect to the remote device.

Steady ... The connection is active and able to transmit data.

Configuration Status

This status light illuminates during configuration to indicate which card is being configured. This is most useful when more than one Eiconcard is installed in the PC.

Consult the documentation provided with the configuration software for information about this status light.

Technical Specifications

Technical Data

- PCI bus compatible (32-bit slot)

Eiconcard	CPU/Memory/Flash	# of VHSI Ports	#of ISDN BRI Ports
Eiconcard S90	25 MHz Motorola 68302 / 1 MB RAM / 1 MB Flash	1	N/A
Eiconcard S91	25 MHz Motorola 68302 / 1 MB RAM / 1 MB Flash	1	1
Eiconcard S92	33 MHz Motorola 68360 / 1 MB RAM / 1 MB FLASH	2	N/A
Eiconcard S94	33 MHz Motorola 68360 / 8 MB RAM / 1 MB FLASH	2	N/A

Hardware Installation

- Automatic configuration of interrupt request level setting and I/O address
- 32-bit I/O access

External Interface

Eiconcard	External Interface
Eiconcard S90	One 36-pin "D Type" female ports.
Eiconcard S91	One 36-pin "D Type" female port and one RJ-45 port.
Eiconcard S92	Two 36-pin "D Type" female port.
Eiconcard S94	Two 36-pin "D Type" female ports.

Performance

- 2 Mbps full duplex per physical VHSI port
- 128 kbps per ISDN BRI port (over the "D" channel or the "B" channels)

Power Requirements

- 1.8 A @ +5V (Eiconcard S92 and S94)
- 1.0 A @ +5V (Eiconcard S90 and S91)
- 45 mA @ +12V
- 50 mA @ -12V

Environmental Requirements

- Operating temperature: 0°C to 50°C
- Operating humidity: 0 to 90% (non-condensing)
- Barometric operating pressure: 86 to 106 kPascals
- Maximum tolerance in power supply variation: +5% to -5%

VHSI Ports

- VHSI ports connect to 36-pin high-density male connectors
- Support for V.24, V.35, EIA-530, and V.36/RS-449
- X.21 with V.11 (X.27) signaling
- Internal or external clocking (DTE or DCE) or split (transmit internal, receive external)

Power Consumption



Warning: Check that power supply will not be overloaded. Maximum power consumption of the board is stated above. The user should check that the total power drawn by the host computer, the Eiconcard S9x, and any other peripherals, does not exceed the capability of the host power supply unit.

International Regulatory Information

Regulatory Information for the USA:

WARNING. Changes or modifications to this unit not expressly approved by Eicon Networks Corporation could void the user's authority to operate the equipment.

Declaration of Conformity

We:

Eicon Networks Corporation
2155 Chenault Drive, Suite 503
Carrollton, Texas USA 75006
1-800-80-EICON
(972) 417-5500
Fax: (972) 417-5610

Declare under our sole legal responsibility that the products listed below to which this declaration relates, are in conformity with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

FCC Part 68 Notice

This unit complies with Part 68 of the FCC rules. On the bottom of this equipment is a label that contains, among other information, the FCC registration number. If requested, this information must be provided to the telephone company.

An FCC compliant telephone cord and modular plug is provided with this equipment, designed to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68 compliant.

This equipment cannot be used on telephone company-provided coin service. Connection to party line service is subject to state tariffs.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact us for repair and warranty information. If the trouble is causing harm to the telephone network, the telephone company may request you remove the equipment from the network until the problem is resolved.

	Facility Interface code	Digital Reg. code	Service Order code	USOC Jack Type
S/T	021S5	XD	6.0N	N/A
U	021S5	DE	6.0N	RJ-49 C

Should you experience trouble with this equipment, please contact the address on the previous page.

Regulatory Information for Canada

NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. Industry Canada does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.



Warning: For your safety, follow these steps before you remove the cover from your PC:

1. Turn off the power to your PC and all peripheral devices.
2. Disconnect the power cable.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

For their own protection, users should ensure that any electrical ground connections of the power utility, telephone lines and internal metallic water pipe system are connected together. This precaution is particularly important in rural areas.



Warning: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Regulatory Information for Europe

EU Declaration of Conformity

EN: Eicon Networks Corporation declares that this equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

DE: Eicon Networks Corporation erklärt, daß diese Telekommunikations-endeinrichtung den grundlegenden Anforderungen und anderen relevanten Bestimmungen der Richtlinie 1999/5/EG entspricht.

DK: Eicon Networks Corporation erklærer, at dette udstyr er i overensstemmelse med vigtige krav og andre relevante provisioner i Direktiv 1999/5/EC.

ES: Eicon Networks Corporation declara que este equipo cumple con los requisitos esenciales y otras disposiciones pertinentes de la Directiva 1999/5/EC.

FI: Eicon Networks Corporation takaa, että tämä laite on 1999/5/EC-direktiivin olennaisten vaatimusten ja muiden lausekkeiden mukainen.

FR: Eicon Networks Corporation déclare que cet équipement répond aux exigences essentielles et autres dispositions pertinentes de la directive 1999/5/EC.

GR: Eicon Networks Corporation προβαίνει στην ανακοίνωση ότι αυτά τα μηχανήματα έχουν τις βασικές απαιτούμενες προδιαγραφές και υπόκεινται στις υπόλοιπες σχετικές διατάξεις της Οδηγικής 1999/5/EC.

IC: Eicon Networks Corporation lýsir hér með yfir að þetta tæki uppfyllir grunnkröfur og tengd ákvæði ESB tilskipunar nr. 1999/5/EC.

IT: La Eicon Networks Corporation certifica che la presente apparecchiatura è conforme ai requisiti di legge stabiliti nella direttiva 1999/5/EC.

NL: Eicon Networks Corporation verklaart, dat deze uitrusting in overeenstemming is met de essentiële vereisten en andere relevante bepalingen van Richtlijn 1999/5/EC.

NO: Eicon Networks Corporation erklærer herved at dette utstyret oppfyller de vesentligste krav og relevante bestemmelser i direktiv 1999/5/EF om radio- og teleterminalutstyr.

PT: A Eicon Networks Corporation declara que este equipamento está de acordo com os requisitos básicos e outras provisões relevantes da Directiva 1999/5/EC.

SE: Eicon Networks Corporation förklarar att denna utrustning överensstämmer med de väsentliga krav och regler som finns i direktivet 1999/5/EG.

To receive a detailed R&TTE Declaration for this product please send a request specifying the product name to the following e-mail address:
certification@eicon.com.

Safety Status: SELV

No voltages within this equipment exceed SELV voltages. All interconnection points and ports are SELV.

User/Installer Instructions for the United Kingdom

Important Safety Considerations When Installing Into A Host Computer System

The Eiconcard S9x is a single PCI card.

Installation Within A Spare Slot Position



Warning: It is essential that, when other option cards are introduced which use or generate a hazardous voltage, the minimum creepages and clearances specified in the table below are maintained. Suitable user protection to ensure compliance with EN60950/A4 should be present on the card. A hazardous voltage is one which exceeds 42.4V peak a.c or 60V d.c. If you have any doubt, seek advice from a competent engineer before installing other adapters into the host equipment.

The equipment must be installed such that with the exception of the connections to the host, clearance and creepage distances shown in the table below are maintained between the card and any other assemblies which use or generate a voltage shown in the table below.

Clearance X mm	Creepage Y mm	Voltage used or generated by other parts of the host or expansion card Vrms or Vdc
2.0	2.4 (3.8)	up to 50
2.6	3.0 (4.8)	up to 125
4.0	5.0 (8.0)	up to 250
4.0	6.4 (10.0)	up to 300

Table 10. Creepage Distances

The larger distance shown in brackets applies where the local environment within the host is subject to conductive pollution or dry non-conductive pollution which could become conductive due to condensation. Failure to maintain these minimum distances would invalidate the approval.

The clearance distance X is the shortest distance in air between two points. The creepage path Y (along surfaces) is the shortest distance between the same two points.

Regulatory information for Australia

- This customer equipment shall only be installed in a PC that requires the use of a tool to gain access to internal parts (e.g. this customer equipment must not be installed in a PC with a 'flip lid').
- Proper installation of the Eiconcard S9x card requires that it is screwed to the metal backplate of the computer. This ensures proper grounding, which is necessary for safety purposes.
- This customer equipment may only be installed in host equipment where there is at least 2 mm of air gap between the customer equipment and adjacent boards (PCBs).
- Only ACA permitted line cord set(s) or made from ACA certified components shall be used as replacements with this customer equipment.

Eiconcard S9x



Warning: This customer equipment is to be installed and maintained by service personnel as defined by AS/NZS 3260 Clause 1.2.14.3 Service Personnel. It may be hazardous if your computer is not properly plugged in and grounded.

